

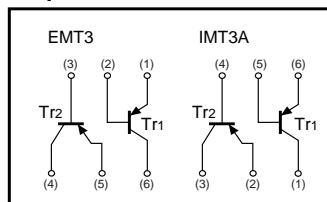
# General purpose (dual transistors)

## EMT3 / IMT3A

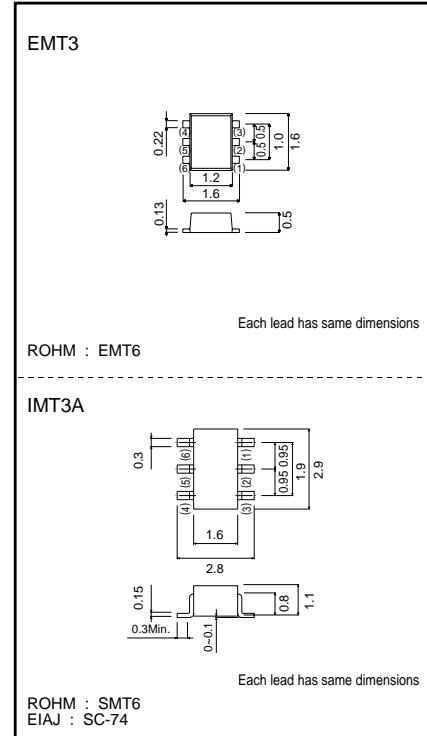
### ●Features

- 1) Two 2SA1037AK chips in a EMT or SMT package.

### ●Equivalent circuits



### ●External dimensions (Unit : mm)



### ●Absolute maximum ratings (Ta=25°C)

Parameter	Symbol	Limits	Unit
Collector-base voltage	V <sub>CBO</sub>	-60	V
Collector-emitter voltage	V <sub>CEO</sub>	-50	V
Emitter-base voltage	V <sub>EBO</sub>	-6	V
Collector current	I <sub>C</sub>	-150	mA
Collector power dissipation	P <sub>C</sub>	150(TOTAL) 300(TOTAL)	mW *1 *2
Junction temperature	T <sub>j</sub>	150	°C
Storage temperature	T <sub>stg</sub>	-55 to +150	°C

\*1 120mW per element must not be exceeded.  
\*2 200mW per element must not be exceeded.

### ●Package, marking, and packaging specifications

Type	EMT3	IMT3A
Package	EMT6	SMT6
Marking	T3	T3
Code	T2R	T108
Basic ordering unit (pieces)	8000	3000

### ●Electrical characteristics (Ta=25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Collector-base breakdown voltage	BV <sub>CBO</sub>	-60	—	—	V	I <sub>C</sub> =50μA
Collector-emitter breakdown voltage	BV <sub>CEO</sub>	-50	—	—	V	I <sub>C</sub> =1mA
Emitter-base breakdown voltage	BV <sub>EBO</sub>	-6	—	—	V	I <sub>E</sub> =50μA
Collector cutoff current	I <sub>CB0</sub>	—	—	-0.1	μA	V <sub>CB</sub> =-60V
Emitter cutoff current	I <sub>EB0</sub>	—	—	-0.1	μA	V <sub>EB</sub> =-6V
Collector-emitter saturation voltage	V <sub>CE(sat)</sub>	—	—	-0.5	V	I <sub>C</sub> /I <sub>B</sub> =-50mA/-5mA
DC current transfer ratio	h <sub>FE</sub>	120	—	560	—	V <sub>CE</sub> =-6V, I <sub>C</sub> =1mA
Transition frequency	f <sub>T</sub>	—	140	—	MHz	V <sub>CE</sub> =-12V, I <sub>C</sub> =2mA, f=100MHz *
Output capacitance	C <sub>OB</sub>	—	4	5	pF	V <sub>CE</sub> =-12V, I <sub>C</sub> =0A, f=1MHz

\*Transition frequency of the device.

## Transistors

## ● Electrical characteristics curves

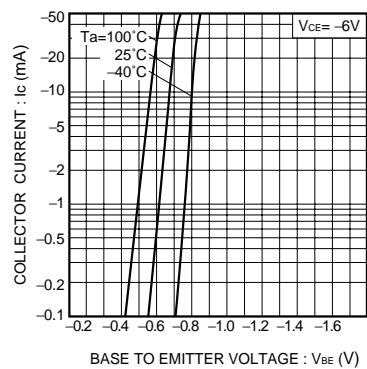


Fig.1 Grounded emitter propagation characteristics

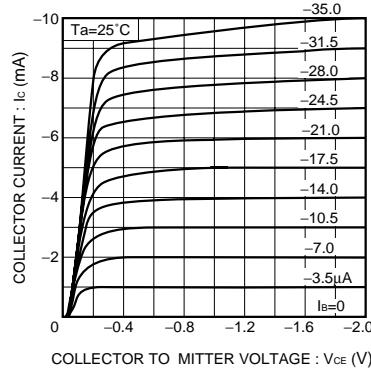


Fig.2 Grounded emitter output characteristics (I)

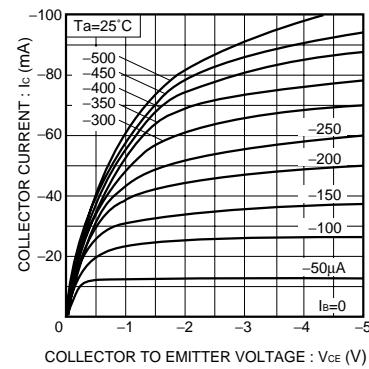


Fig.3 Grounded emitter output characteristics (II)

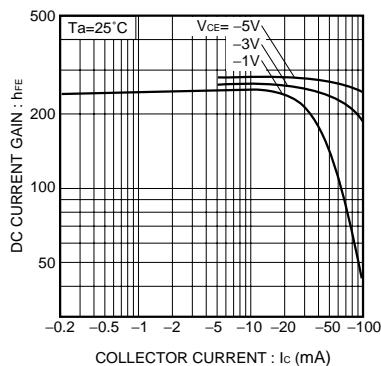


Fig.4 DC current gain vs. collector current (I)

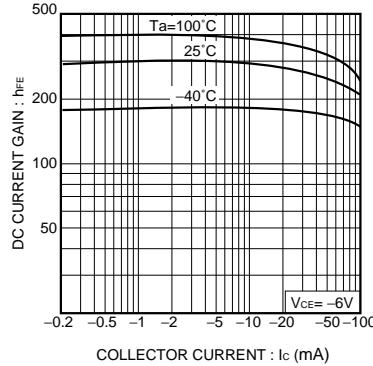


Fig.5 DC current gain vs. collector current (II)

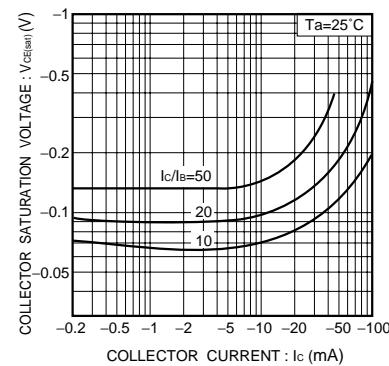


Fig.6 Collector-emitter saturation voltage vs. collector current (I)

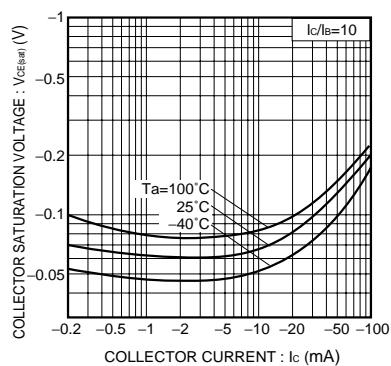


Fig.7 Collector-emitter saturation voltage vs. collector current (II)

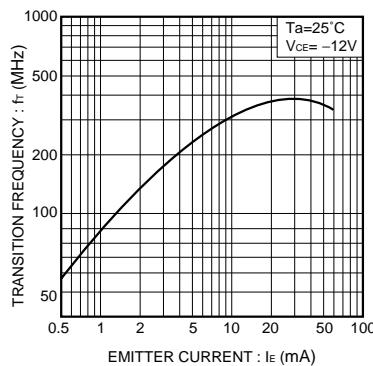
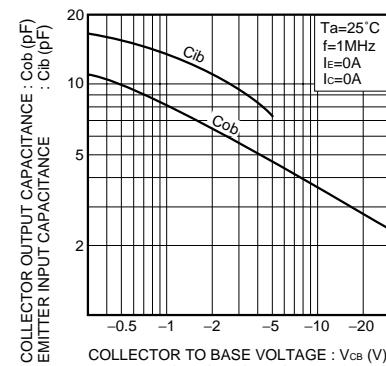


Fig.8 Gain bandwidth product vs. emitter current

Fig.9 Collector output capacitance vs. collector-base voltage  
Emitter input capacitance vs. emitter-base voltage

## Appendix

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